

Notice of Allowability

Application No.

09/967,090

Examiner

Audrey Y. Chang

Applicant(s)

CHEN, GEORGE C.K.

Art Unit

2872

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to appeal brief filed on April 23, 2004.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ The drawings filed on 27 September 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Audrey Y. Chang
Primary Examiner
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REASONS FOR ALLOWANCE

Remark

- This Office Action is in response to applicant's appeal brief filed on April 23, 2004, which has been entered into the file.
- Claims 1-14 remain pending in this application.
- The amendment to the specification and abstract filed on January 9, 2004, will be entered into the file.
- The objections to the drawings set forth in the previous Office Actions are withdrawn.

Reasons For Allowance

1. The following is an examiner's statement of reasons for allowance: in view of the arguments provided by the applicant in appeal brief and in view of the prior art references considered, none has disclosed a *wavelength reference*, and method for making the wavelength reference, that is comprised of at least one *gas-tunable etalon* including a *cavity* surrounded by a pair of reflective surfaces, wherein the *cavity is filled with gas-tunable medium* having a *variable optical index of refraction* wherein the gas-tunable etalon produces equally-spaced spectral lines that are *variable in response to the changes in gas properties* of the gas-tunable medium and the spectral lines can be *tuned to align* with an external wavelength standard.

US patent issued to Ip (PN. 6,141,130) teaches a spectral equalizer that is comprised of an etalon having a cavity that is surrounded by a pair of reflective surface wherein the resonance of the cavity, (that produces the equal spaced spectral lines), can be changed by varying either the angle of incidence of the light or the dimension of the cavity. Ip teaches explicitly that the cavity may also be filled with *gas medium* having a refractive index that can be varied (which therefore changes the resonance condition of the etalon) by changing the density or composition of the gas due to variations in temperature , pressure

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or humidity. **However Ip does not teach explicitly** that the etalon is tuned by tuning the gas medium so that the spectral lines are aligned with certain standard wavelength rather Ip teaches to **seal** the gas so that the refractive index of the gas medium would not be effected by the change of gas properties.

US patent issued to **Wildnauer (PN. 6,421,120)** teaches a *wavelength calibration reference* wherein a *tunable etalon* that is tunable by *changing the refractive index* of the medium in a cavity. However this reference **does not teach explicitly** that the medium is *gas* that is tunable by varying the refractive index of the *gas*, in particular, it does not teach to change the *properties, composition or the pressure of the gas* medium to change the refractive index of the gas and therefore the resonance condition of the etalon. This reference also **does not teach** to tune the tunable etalon to **align** the spectral lines with external wavelength standard.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Contact Information

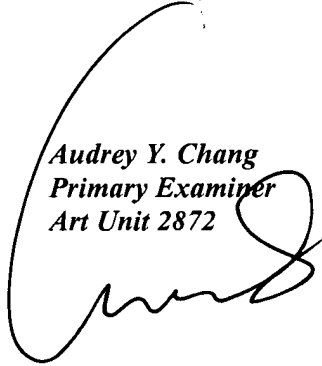
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Audrey Y. Chang
Primary Examiner
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A. Chang, Ph.D.